

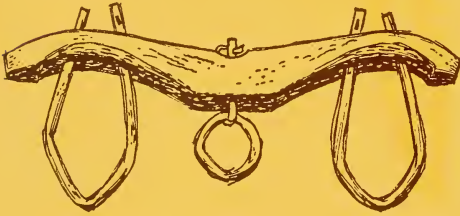
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Abraham Lincoln: His In-
ventive Mind.

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ABRAHAM LINCOLN:
HIS INVENTIVE MIND




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ABRAHAM LINCOLN: HIS INVENTIVE MIND

By E. MANUEL HERTZ

There are few phases of Abraham Lincoln's career which are so rarely referred to as his first invention, and comments on his inventive mind are almost completely absent. But few have delved into the records of the Patent Office or refer to his conferences with his partner Herndon, about his invention. His appearance in 1859, in the MacCormick reaper case, is occasionally referred to by lawyers, but only by reason of his strange and unpleasant experiences upon meeting Stanton for the first time. But that there was a strain in his mental make-up which had a tendency to invent and to appreciate a new invention, has not been considered of sufficient importance by his many biographers, to induce them to allot a page or two to that subject. And yet this little known quality of mind, which made him examine with care a new invention and discourse about it understandingly, turned the scales against the Confederacy and practically turned the tide in favor of the Union.

On March 9, 1862, occurred a great fight between the *Merri-mac* and the *Monitor* in Hampton Roads, which saved New York Harbor from such destruction as would have meant speedy recognition of the Confederacy in Europe. For that actual defeat, though not destruction, of the Confederate ram, Lincoln was responsible not less than the famous inventor Ericsson, who had already made the scow propeller. Lincoln had been a flatboatman; he had even made an invention for lifting flatboats over shoals—the model may be seen in the Patent Office.

No. 6469—*Improved Method of Lifting Vessels over Shoals.*

“What I claim as my invention and desire to secure letters patent, is the combination of expansible buoyant chambers, placed at the sides of a vessel, with the main shaft or shafts C, by means of the sliding spars or shafts D, which pass down through the buoyant chambers, and are made fast to their bottoms and the series of ropes and pulleys, or their equivalents,

in such a manner that by turning the main shaft or shafts in one direction, the buoyant chambers will be forced downwards into the water, and at the same time expanded and filled with air for buoying up the vessel, by the displacement of water, and by turning the shaft in an opposite direction, the buoyant chambers will be contracted into a small space, and secured against injury.

A. Lincoln."

Appearing as though it had been whittled out of a shingle and a cigar box, the model is about eighteen or twenty inches long, and bears the inscription "6469, Abraham Lincoln, Springfield, Illinois. Improvement in lifting vessels over shoals. Patented May 22, 1849."

The idea for this device probably originated when he built a boat to take produce to New Orleans. After reaching New Salem the boat stuck on a mill-dam, the bow in the air and the stern in the water, the cargo slowly settling backward and shipwreck almost certain to follow. Lincoln unloaded the boxes and barrels, and tilted his craft. Then, by boring a hole in the end extending over the dam, the water was let out. It was this experience which inspired Lincoln's first invention.

On a journey between Niagara Falls and Springfield, part of the trip was by boat. For a while the boat was stranded in shallow water and had to be pried loose. First a large pole was driven into the mud, and then a winch and a rope were attached to it to pull the steamer free. When the future President returned to Congress, he took his invention with him and showed it to Z. C. Robbins, a patent lawyer, who said: "I speedily came to the conclusion that his idea was of value and procured a patent."

Lincoln also interested himself in balloons, and was one of the first persons to receive a telegraphic message from a balloon sent up to make observations on an enemy's works across the Potomac River.

When Ericsson first appeared in Washington, secretaries, Senators, Congressmen—all made fun of the proposed turret

ironclad; but Lincoln told Ericsson to go ahead. With this encouragement the ingenious Swede got help from a Connecticut capitalist and Congressman; and Lincoln himself accepted the strange craft for the Navy. His experience, insight and persistence, in the face of ridicule, saved the seas to the Union.

Lincoln was ever interested in inventions, in patents, as he saw them, read about them or which were brought to his attention. A war always brings a flood of inventions and an army of inventors to the various heads of the various departments. A good many of these came to Lincoln himself. Some old friend, some prominent officeholder—elected or appointed—would manage to arrange for an appointment and for a hearing before the President would refer the inventor to the proper department head who was to look into the merits of these inventions. Here is one who came from Montreal “who wishes to exhibit a discovery for the protection of wooden structures against fire.”

And now he is interested in an invention which is to detect objects under water—like his great prototype, Jefferson, who was also interested in a model of a submarine. On July 21, 1813, Thomas Jefferson wrote to Robert Fulton as follows:

“Immediately on receipt of your favour of July 8 I forwarded it to the President, and had no hesitation in expressing my own wish that it should be tried. in fact as we cannot meet the British with an equality of Physical force we must supply it by other devices, in which I know nobody equal to yourself, and so likely to point out to us a mode of salvation. accordingly I hope this honor is reserved for you, and that either by subaqueous guns, torpedoes, or diving boats you will accomplish it by the aid of government. the New York Evening post has given us a quiz on this subject, hoping, I presume, to draw a flimsy veil of jest over his habitual lies, and wishing us to suppose all those were but jests. I confesse I have more hopes of the mode of destruction by the submarine boat, than any other. no law of nature opposes it, and in that

case nothing is to be despraised of by human invention, nor particularly by yours. Accept the juste tribute of an American citizen. . . .”

So Lincoln writes to Captain, afterwards Rear Admiral, John A. Dahlgren, as follows :

“Jan. 9, 1864.

Admiral Dahlgren,

My dear Sir :

Capt. Lavender wishes to show you a contrivance of his for discovery and aiding to remove, under-water obstructions to the passage of vessels, and has sufficiently impressed me to induce me to send him to you. He is sufficiently vouched to me as a worthy gentleman; and this I know, it needs not my asking for you to treat him as such.

Yours truly,

A. Lincoln.”

He thus anticipated the submarine and the weapons with which to fight them. With no other Naval officer was Lincoln so intimate; and Lincoln kept him in his post against every attempt to remove him. He would write, asking him for a drive or to dine with him at the White House, and constantly sought his advice upon naval matters.

Dahlgren's diary for the years 1861-1863 is very valuable because of his close association with Lincoln. It shows Lincoln's progress in the study of military and naval affairs. He was especially interested in ordnance and ammunition. He was seen firing at a target with a Spencer gun. The diary of Dahlgren is full of reference to Lincoln's interest in naval ordnance. He drives to the Navy Yard to see a 150 pounder fired off. He examines “guns, iron plates, etc.” He goes to the Bureau of Ordnance “to see about some new powder.”

Of great importance was Lincoln's interest in the Spencer repeating rifle. Among the many inventors who came to Washington during the War, was Christopher N. Spencer, a young machinist from New England. He had invented a repeating rifle which was destined to have a large share in the success of the Union armies and was to become used throughout the world. At the age of twenty-four Spencer conceived the idea of building a repeating rifle with the magazine running down through the inside of the stock. He obtained his patent on March 6, 1860. His employer, Charles Charey, knowing Secretary Welles, introduced him. The proper tests having been satisfactory, a thousand guns were ordered by the Navy Department. But he could make no further progress until through the intercession of Congressman James G. Blaine the President became interested, and the War Department ordered ten thousand, and before the end of the War the government purchased two hundred thousand more "which did great execution at the Battle of Gettysburg and in other important battles of the War."

Mr. Spencer's account of his meeting the President, as related to us by himself, is full of interest and is characteristic of the great directness and simplicity of Mr. Lincoln's character.

"Among my most pleasing recollections of the war times was a shooting match which I engaged in with President Lincoln. I had been delegated by our company to present the President with one of the rifles, which I did on August 17, 1863. On my arrival at the White House I was ushered immediately into the reception room, with my repeating rifle in my hand, and there I found the President alone. I took the rifle from its cloth case and handed it to him. He examined it carefully and handled it like one familiar with firearms. He requested me to take it apart and show the 'inwardness of the thing.' After carefully examining and approving the gun, he asked me if I had any engagement for the following day, and requested me to come over about 2 o'clock, when, he said, 'we will go out and see the thing shoot.'

"The next day we started on time for the shooting place, which was about where stands the Washington Monument. With us was the President's son Robert and an official of the War Department.

"On the way the President stopped in front of the War Department and sent Robert to ask Mr. Stanton, the Secretary of War, to come with us. While we were waiting Mr. Lincoln told us some good stories, and, noticing that one of the pockets of his black alpaca coat was torn, he took a pin from his waistcoat and proceeded to mend it, saying, laughingly, 'It seems to me that this does not look quite right for the chief magistrate of this mighty Republic.' Robert reported that Mr. Stanton was too busy to accompany us. 'Well,' said the President, 'they do pretty much as they have a mind to over there.' The target was a board about 6 inches wide and 3 feet long, with a black spot painted at each end. The rifle contained six 50-caliber, rim-fire, copper cartridges. Mr. Lincoln's first shot was to the left and 5 inches low, but the next shot hit the bullseye and the other five were placed close around it.

"'Now,' said Mr. Lincoln, 'we will see the inventor try it.' The board was reversed and I did somewhat better than the President. 'Well,' he said, 'you are younger than I am and have a better eye and steadier nerve.'"

Dahlgren's account of his visit to the White House on December 22, 1862, affords an excellent view of the variety and vexation of Lincoln's tasks:

"The President, glad to drop such troublesome business (accepting one of Chase's resignations) and relaxing into his usual humor, sat down and said, 'Well, Captain, here's a letter about a new powder,' which he read, and showed the sample. Said he had burned some, and there was too much residuum. 'Now, I'll show you.' He got a small sheet of paper, placed on it some of the powder, ran to the fire, and with the tongs picked up a coal, which he blew, spees still on nose. It occurred to me how peaceful was his mind, so easily diverted from the great convulsion going on and a nation menaced with disruption.

"The President clapped the coal to the powder, and away it went, he remarking, 'There is too much left there.' He handed me a small parcel of the powder to try. * * *"

He is next interested in a new model of a gun, and writes to Dahlgren about the advisability of buying a large supply of these guns:

"Jan. 10, 1861.

Capt. Dahlgren,

My dear Sir:

You have seen Mr. Blunt's new gun. What think you of it? Would the Government do well to purchase some of them? Should they be of the size of the one exhibited, or of different sizes?

Yours truly,

A. Lincoln."

The *Monitor*, of course, was the greatest of these inventions in which Lincoln immediately became tremendously interested. News was reaching the Navy Department in Washington as to what was transpiring in the Navy Yard at Norfolk. It was to become a race of days, if not of hours. If by some misfortune, the time was prolonged and the battleship ironclad in Norfolk could have leeway of a month, she would not only destroy the entire Navy made up of wooden ships but would lay waste the principal cities on the Atlantic seaboard more than sufficient to secure recognition, if not participation by foreign powers, and thus end the War and establish the Confederacy. Therefore, the need of a ship to stop the *Merrimac* became an agonizingly self-evident necessity.

Lincoln, through Welles and his assistant, Fox, was kept constantly advised as to what progress was being made on the *Monitor*. How the work was being done, how the government payments lagged and delayed the work, how Ericsson's indomitable will and energy and determination forced the rapid construction of the boat within one hundred working days, is a

matter of history. How a few slight defects at her launching brought down the condemnation and ridicule of a hostile press, and the suggestions of substitutions of new parts or repairs, which would occupy the precious days, which meant doom or victory to the North, have also been adequately recorded. How the *Monitor* was completed and ordered to join Farragut in the Gulf of Mexico, and just in the nick of time diverted to Hampton Roads, was another one of those providential events which make and unmake nations. She came to Hampton Roads in the night, which was illuminated by the burning vessels of the Union Navy—a navy which was just about passing out of existence and which was the slender reed upon which the North was attempting to keep the South within a three thousand mile blockade, and which the *Merrimac* was even then beginning to destroy and break up. The *Monitor* appeared on the 8th of March, 1862, and fought the memorable fight on the 9th.

While the contest in Hampton Roads served to direct the attention of all the world to the necessity for making a complete change in naval armaments, it did not fully illustrate the possibilities of the monitor system. When his vessel had passed from the hands of Ericsson, it was beyond his control. He had done his part in furnishing an impregnable floating battery, carrying guns that were equal to the task of destroying the enemy's vessel; he could do no more. The wave of rejoicing which swept over the North was due not so much to the achievement of the *Monitor*, fought as she was, as to the sense of relief at the discovery that the Government had under its control at least one vessel that could not be destroyed by the *Merrimac*. The timid counsels prevailing at Washington prevented the contest from being brought to the issue which Ericsson intended. Though the necessities of the time may have required this, the result was not less disappointing to him.

“‘The *Monitor* only appears upon the scene,’ says the Confederate writer here quoted, ‘after we have been on the rampage for a whole day; have cleared out everything in the Roads—men-of-war, transports, traders, and have done the enemy all possible injury, material and moral. Stocks fall ten per cent.

in an hour, gold rises faster, and such a panic prevails as was never known before or since.'

"Secretary Welles, describing a cabinet meeting called by Mr. Lincoln on receipt of the news of the first day's disaster, says: 'Mr. Stanton said: "The *Merrimac* will change the whole character of the war; she will destroy, *seriatim*, every naval vessel; she will lay all the cities on the seaboard under contribution. I shall immediately recall Burnside; Port Royal must be abandoned. I will notify the governors and municipal authorities in the North to take instant measures to protect their harbors. I have no doubt that the monster is at this minute on her way to Washington, and"—looking out of the window which commanded a view of the Potomac for many miles—"not unlikely we shall have a shell or a cannon-ball from one of her guns in the White House before we leave the room!" Mr. Seward, usually buoyant and self-reliant, overwhelmed with the intelligence, listened in responsive sympathy to Stanton, and was greatly depressed, as indeed were all the members.'

"It is true that the Confederate writer claims the victory for the *Virginia* (*Merrimac*) in this battle: a battle described by him as 'revolutionizing in an instant the whole science of naval warfare; more memorable than any sea-fight of history, more pregnant of consequences,' and one to be 'remembered to the latest posterity as the prominent naval event of our times.' This is not worth disputing over. The prestige of victory was with the *Monitor*, and it is that vessel, and not the *Merrimac*, that revolutionized naval ideas and influenced naval construction. The one was a rude machine hastily improvised to meet an emergency; the other the expression of the carefully matured plans of the ablest and most experienced worker in the field of naval construction. The *Virginia* (*Merrimac*), a few weeks later, and without doing further damage, sank beneath the waters of Chesapeake Bay, to be thenceforth remembered only as the antagonist of the *Monitor*; Ericsson's Battery established a type whose influence upon naval construction has not yet passed away.

“ ‘The *Monitor*,’ said Admiral Luce, in a paper read before the Naval Institute, April 20, 1876, ‘was the crystallization of forty centuries of thought on attack and defence, and exhibited in a singular manner the old Norse element of the American Navy; Ericsson (Swedish, *son of Eric*) built her; Dahlgren (Swedish, *branch of a valley*) armed her; and Worden (Swedish, *wordig, worthy*) fought her. How the ancient skalds would have struck their wild harps in hearing such names in heroic verse! How they would have written them in “immortal runes!”’

“ ‘So of the *Monitor*, Minotaur old Mr. Quincy said to me it should have been, in its appearance in part of the great megalosaurus or deinotherium, which came out in scaly armor that no one could pierce, breathing fire and smoke from its nostrils; is it not the age of fable and of heroes and demigods over again?’

“Mr. Newton’s statement concerning the defensive role of the *Monitor* is fully confirmed by Assistant Secretary Fox. In a letter to Captain Ericsson, he said: ‘I wrote the order forbidding the *Monitor* going into the upper roads to meet the *Merrimac*. Why? Because I had pledged McClellan that the *Merrimac* should not disturb his military manoeuvres, and to that obligation all naval operations were subordinate. We fulfilled our duty, and kept her in until she committed “Hari Kari.” President Lincoln had also given orders that the *Monitor* should take no risks that could be avoided.

“March 10, 1862.

Hon. Sec. of Navy

My dear Sir

I have just seen Lieut. Worden, who says the ‘*Monitor*’ could be boarded and captured very easily—first, after boarding, by wedging the turret, so that it would not turn, and then by pouring water in her & drowning her Machinery—He is decidedly of opinion she should not go skylarking up to Norfolk.

Yours truly,
A. Lincoln””

In his Annual Message to Congress, in December, 1863, Lincoln, after referring to the arrangements with the Czar of Russia for the construction of a line of telegraph from our Pacific Coast through the Empire of Russia, to connect with European systems, urged upon Congress favorable consideration of the subject of an international telegraph across the Atlantic and a connection by telegraph between Washington and our forts, and posts along the Atlantic Coast and the Gulf of Mexico. He had a number of conferences with Cyrus W. Field, the chief exponent of Atlantic cables. The enormous expense involved and the fear of damage by Confederate blockade runners prevented the adoption of Lincoln's cherished plan of coast cable from Fort Monroe to New Orleans. Had Field's plan been adopted and Lincoln's recommendation acted upon by Congress, the War would have been brought to a close months earlier. Again Lincoln's farsight and prophetic mind were far ahead of his contemporaries.

And so it came to pass, when the mind and heart and body of Abraham Lincoln were being endowed with the strength and vitality required by the unprecedented task which was his; when his mind was endowed with the ability to analyze the situation in which his country found itself after seventy years of hectic existence, and came to understand both the problems and the only solution; when he was endowed with a power of expression and lucidity and clearness of thought to translate the problem and its solution so that all his countrymen could understand it, and follow his advice and his orders; when that great heart was endowed with qualities which enabled him to sympathize with his Southern brothers and appreciate the struggle which was theirs and the predicament from which they could not disentangle either themselves or their states—qualities of heart and mind and body which are rarely, if ever, found in one man; and all of these were certainly combined in Lincoln to a most remarkable degree; we are confronted with an additional endowment with which this superman was gifted. We find that the great emergency has found in him a latent strategist which the travail of his country brought out in the most glor-

ious manner. We find him a student of war. He masters the war maps, tactics and raising of armies and their movements. He turns out to be an adept at diplomacy, and when the most certain doom is about to snuff out the life of the Union, when the *Merrimac* booms her guns and begins what the Cabinet in Richmond thought confidently to be the last act of the war, the destruction of the Northern Navy, to be followed by the sacking and burning of every city on the Atlantic seaboard, Lincoln, the inventor, had hastened the hand of that other inventor of the *Monitor* and kept his eye on the building of the diminutive ironclad which was to save the day and the nation. Lincoln, the inventor of the contrivance to raise boats over shoals, Lincoln who had examined new guns, Lincoln who had listened to the balloon and its first messages, Lincoln who had been talking of a cable along the entire coast—this same man stepped forward and helped Ericsson to work upon his invention, which resulted in the revolution and regeneration of battle-ships for the first time in four thousand years.

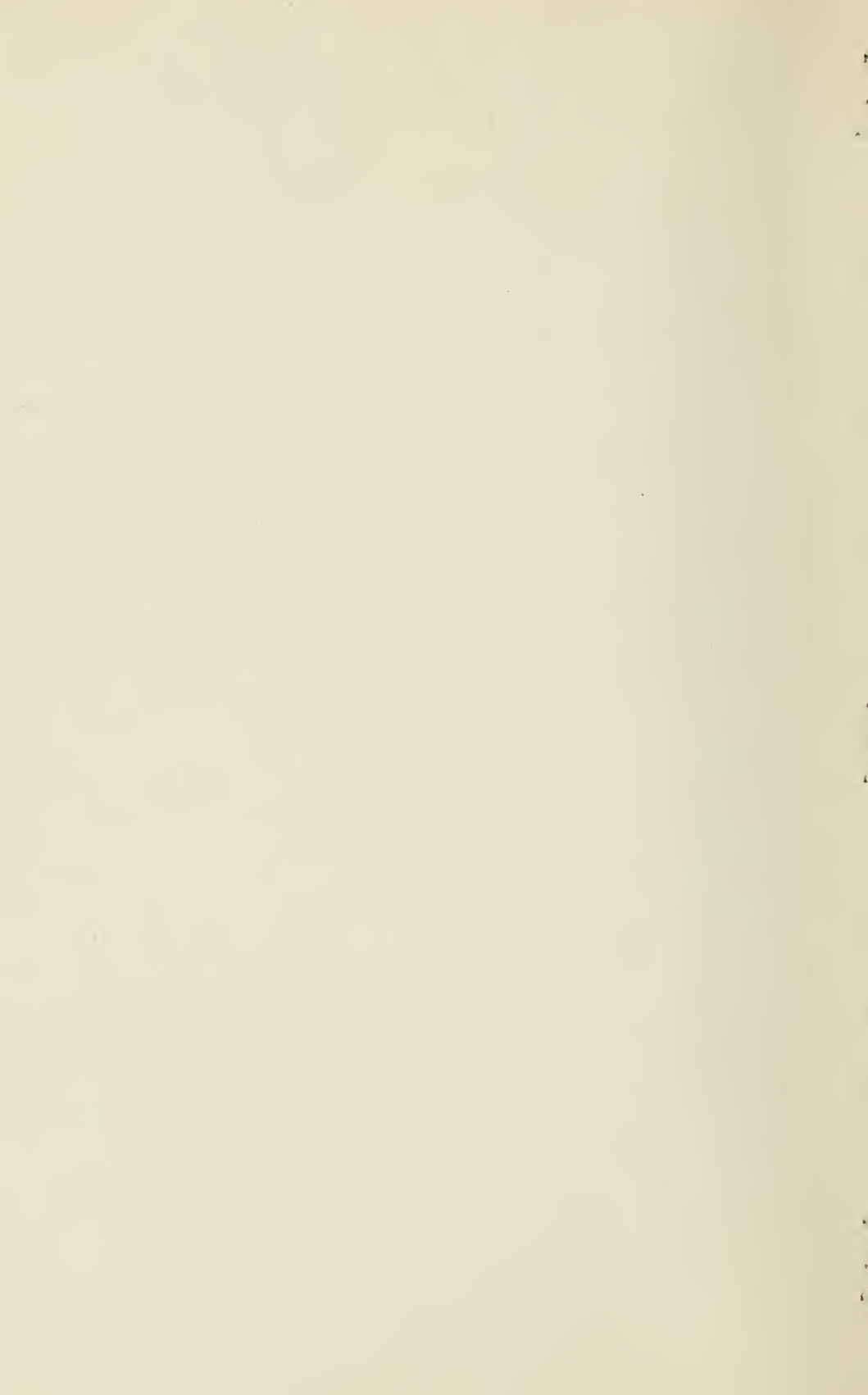
And yet there are those who persist in denying him his just place in the drama which resulted in the transformation of the wooden sailing vessel of which the Union Navy was composed when he came to the helm, to the practically indestructible ironclad Union Navy, which Phenix-like came out of the fire which ignited a battlefront of a thousand miles and which blockaded a seaboard of three thousand miles.

To those who refuse to see, who refuse to understand, who refuse to acknowledge, who persist in their hallucinations about the "real" Lincoln; to those who still quote the libels of the press which was hired to villify him—nothing can be said. Our children, however, will see what the blinded eyes of their elders failed to see and which they failed to understand.

A short Italian story, in its translation, will clarify the last statement: Once upon a time there lived in Pisa an elderly gentleman whose windows looked on the famous tower. Through long gazing on this striking object during a tedious convalescence he conceived the idea (which deepened into a delusion) that the tower was perpendicular and all other buildings

were leaning. To the amusement of his friends, he had the floor of his room relaid so that the furniture was tilted into lines parallel with those of the tower. He was dilating on his fixed idea one afternoon when he had visitors; one of the party, a kindly old priest, seeing a grandchild of the invalid playing along the corridor, called out to him: "Beppino! Come to me." The boy was a special favorite of the old man. Placing the boy on the table with his face to the tower, the priest said: "Carissimo Signor Conte! Are you content to let Beppino decide?" "Dear little man," said the grandfather, kissing the brown locks. "You shall settle it!" "Look, Beppino, at the tower!" said the priest laying his hands lightly on the child's shoulders; "is it straight?" "E certo che, s'inchina!" "Of course, it leans," said the child without the slightest hesitation.

February 12th, 1930.





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ABRAHAM LINCOLN: HIS INVENTIVE MIND



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